



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,339	12/16/2003	Yuguang Fang	5853-365	6141
30448	7590	07/20/2007	EXAMINER	
AKERMAN SENTERFITT P.O. BOX 3188 WEST PALM BEACH, FL 33402-3188			HAILE, AWET A	
ART UNIT		PAPER NUMBER		
2609				
MAIL DATE		DELIVERY MODE		
07/20/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/737,339	FANG ET AL.
Examiner	Art Unit	
Awet A. Haile	2609	

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 16 December, 2003.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 1-3 and 7-14 is/are allowed.

6)  Claim(s) 6 is/are rejected.

7)  Claim(s) 4,5 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) —  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 03/22/2004. —  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_ .

## ***DETAILED ACTION***

### ***Claim Objection***

1. Claims 4 is objected to under 37 CFR 1.75 because of the following informalities

For claim 4 line 1, the occurrence of “ four peaks” seems to refer back to “four peaks “ previously recited in claim 3 line 5, if this is true, it is suggested to applicant to change “four peaks” to --the four peaks--. Similar problem exist in claim 5 line 1.

For claim 5 line 1, the occurrence of “ synchronization” seems to refer back to “synchronization “ previously recited in claim 3 line 1, if this is true, it is suggested to applicant to change “synchronization” to --the synchronization --.

For claim 6 line 2, the occurrence of “ number” seems to refer back to “a number “ previously recited in claim 6 line 2, if this is true, it is suggested to applicant to change “a number” to --the number --.

### ***Claim Rejections – 35 USC§ 112***

2. The following is a quotation of the second paragraph of 35 U.S.C 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6 is rejected under 35 U.S.C 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 6 line 1, the occurrence of “the threshold” has no antecedent basis.

### ***Allowable Subject Matter***

4. Claim 6 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
5. Claims 1-5 and 7-14 are allowed
6. The following is a statement of reasons for the indication of allowable subject matter  
For claim 1-14 the prior art fail to teach inverse Fast Fourier-transforming polyphase code sequences whose number is the same as half of an IFFT size using Hermitian symmetry; replicating output signals from the transforming step for a predetermined number of times to provide replicated signals and placing the replicated signal in serial.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Linnartz et al (US 2002/0181549 A1), Rhodes Valentine (US 2004/0264362 A1), Dey et al (US 2005/0073946 A1), Fang et al (US 2005/0111590 A1), Izumi (US 7085223 B2) are recited to show a preamble for an OFDM signal for channel estimation and synchronization.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Awet Haile whose telephone number is (571) 270-3114. The examiner can normally be reached on Monday - Thursday 10:00 AM – 5:00 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton, can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, Call 800 –786-9199(IN USA OR CANADA) or 571-272-1000.



DANG T. TON  
SUPERVISORY PATENT EXAMINER